

## AP WORKSHEET 00B: Significant Figures

- Determine the number of significant figures in each of the following. (6)
  - 0.7680
  - 1230.00
  - 1000.01
  - 120.0
  - $1.09 \times 10^4$
  - 0.0080060
- Use a calculator to find the results of the following and then round the answer to the correct number of significant figures. (6)
  - $34.66 + 333.0$
  - $1.23 + 9.66$
  - $445 - 1.22$
  - $18.2 + 1.998$
  - $10.2 - 1.34$
  - $100 - 23$
- State the significant figure rule that is associated with "captive zeros". (1)
- State the significant figure rule that is associated with "leading zeros". (1)
- State the significant figure rule that is associated with "trailing zeros". (1)
- State the significant figure rule that is associated with addition and subtraction operations. (1)
- State the significant figure rule that is associated with multiplication and division operations. (1)

8. Use a calculator to find the results of the following calculations and then round the answer to the correct number of significant figures. (6)

- (a)  $12 \times 11.45$
- (b)  $(1.23 \times 10^3) \times (6.4 \times 10^2)$
- (c)  $5.233 \times 6.324$
- (d)  $34 / 22$
- (e)  $(1.8 \times 10^5) / 14$
- (f)  $100.23 / 5.22$

9. Round each of the following to three significant figures. (6)

- (a) 167.789
- (b) 0.0000456922
- (c) 23.00567
- (d) 3.4569
- (e) 7903.0005
- (f) 11.044

10. How many significant figures in each of the following? (6)

- (a) 654.001 nm
- (b)  $6.02 \times 10^{23}$  particles
- (c) 1.0079 g
- (d) 13 neutrons
- (e) 11.22201 mg
- (f) 0.004504 g